



**Missouri River  
Natural Resources  
Conference  
& BiOp Forum**  
*From a Healthy  
Ecosystem to a Healthy  
Economy: A River in  
Transition*



**February 26-28, 2008  
Lied Lodge and  
Conference Center  
Nebraska City, Nebraska**

“We have to reject the duality that suggests we cannot maintain the beauty and richness of the world while simultaneously living in it.

We can have a vision of rivers as both utilitarian and healthy. In fact, we should demand it because it can be done...” — Jim Norton



## **Welcome to the MRNRC Conference and BiOp Forum**

Welcome once again to Nebraska City and the beautiful Lied Lodge and Conference Center! This marks the 2<sup>nd</sup> year the Missouri River Natural Resources Committee has teamed up with the U.S. Army Corps of Engineers and the U.S. Fish and Wildlife Service in hosting the Missouri River Natural Resources Conference and BiOp Forum. Conference organizers had hoped that this format of combining the Missouri River Natural Resources Conference with required Biological Opinion communication between the Corps and the Service would provide a popular venue for communication not just between two federal agencies but amongst all Missouri River stakeholders in one forum. Your participation and that of nearly 300 other participants is testimony to not only success but the need for communication and integration of scientific findings into a better understanding of the Missouri River and direction into management decisions.

This year's conference theme "*From a Healthy Ecosystem to a Healthy Economy: A River in Transition*" is intended to begin focusing our understanding of ecosystem goods and services and how we measure and incorporate them into management decisions. This improved understanding, will help to define future scientific needs to assess those ecosystem benefits as we transition to a healthier Missouri River ecosystem through recovery and restoration efforts. As your host from Iowa Department of Natural Resources, in a state bounded on both the east and west by two of the nations greatest rivers and also two of the most altered river ecosystems, we fully comprehend the demands placed upon these two river's natural systems. We have for too long confined our perspective on the concept that we must make choices between flood risk management or a functioning flood plain, water supply demands or a more naturalized hydrograph, and so on...I believe as Jim Norton is quoted on the front of this program, We have to reject that duality... We need to develop a vision of the Missouri River as both utilitarian and healthy. And with the implementation of that vision, a healthier more resilient, diversified economy."

The development of that vision and its implementation will not come easy but it is worth the journey. The following is from the National Research Council in “The Missouri River Ecosystem Exploring the Prospects for Recovery 2002”:

“In large and highly-controlled river systems like the Missouri, comprehensive and accurate knowledge of system values can be useful in making decisions ... Such changes will entail tradeoffs between different uses and values. An understanding of the economic and ecologic effects of these tradeoffs requires knowledge of methods for measuring values, from standard quantification of flood-damage reduction benefits to more novel quantification of ecosystem services.”

The steering committee for this year’s Conference and BiOp Forum has assembled a plenary panel to provide examples and share their experiences of valuing ecosystem goods and services and provide insight into how valuation can be accomplished and incorporated into management decisions. The plenary will also share challenges and opportunities of restoration along with the mounting demands on our nation’s rivers. It is our hope, that you will see the need to better link Missouri River management, ecology, social values and ecosystem services through future science based efforts on these topics. Linking these various measures and values will require a process for better measuring and testing of Missouri River socio-economic science as it is integrated into decision making along side the science of natural resources.

In addition to the plenary, we have organized several contributed oral and poster presentations into sessions on various aspects of Missouri River research, monitoring, and management. On behalf of the steering committee for the Missouri River Natural Resources Conference and BiOp Forum, enjoy your stay at the Lied Lodge, and we hope the Conference and BiOp Forum is informative, educational, and of value to you!

Chris Larson, Planning Committee Chair  
Iowa Department of Natural Resources  
Lewis, Iowa

Your meeting registration covers all meals on Tuesday and Wednesday, breakfast on Thursday, all socials, and continuous breaks each day. **Thus, all events (meals, technical sessions, breaks, and socials) require that you wear your conference name tag while attending any conference function.** If you do not have it on, you will not be allowed entrance to the event and you will be asked to leave the event until you have it.

## **Plenary & Sessions—Daily Events At-a-Glance**

### **Monday 2/25**

- 3:00pm – 7:00pm - Registration (Lower Lobby Lied Lodge)
- 3:00pm – 7:00pm - Pin posters (West Assembly)
- 6:00pm – 11:00pm - Welcome Social (Steinhart Lodge)

### **Tuesday 2/26**

- 7:00am – 6:00pm - Registration (Lower Lobby Lied Lodge)
- 7:00am – 8:00am - Breakfast Buffet (West Assembly)
- 8:00am - 12:10pm - Plenary (Steinhart Room)
- 12:10pm – 1:20pm – Lunch/MRNRC Champion Award (West Assembly)
- 1:30pm – 3:10pm - Missouri River Recovery & WRDA (Steinhart Room)
- 3:00pm – 5:10pm - The Wider River View (Steinhart Room)
- 6:15pm – 7:30pm – Dinner Buffet (West Assembly)
- 7:30pm – 11:00pm - Social/Band (Steinhart Lodge)

### **Special Meetings**

- 8:00am – 4:00pm – MICRA, Shovelnose Sturgeon (Boardroom)
- 7:00pm - 9:00pm –MRERP

### **Wednesday 2/27**

- 7:00am – 6:00pm - Registration (Lower Lobby Lied Lodge)
- 7:00am – 8:00am - Breakfast Buffet (West Assembly)
- Poster Session during Morning Breaks (West Assembly)
- 8:00am – 12:00pm – Concurrent Sessions (Marcotte, Steinhart A/B & C)
- 12:00pm – 1:10pm - Lunch (West Assembly)
- 1:20pm – 3:00pm - Concurrent Sessions (Steinhart A/B & C)
- 3:00pm – 5:00pm - Poster Session (West Assembly)
- 6:15pm – 7:30pm – Dinner Buffet/Poster Awards (West Assembly)
- 7:00pm – 11:00pm - Social (Steinhart Lodge)

## **Wednesday 2/27**

### **Special Meetings**

- 8:00am – 12:00pm – MICRA, Shovelnose Sturgeon (Boardroom)
- 3:00pm – 6:00pm - Pallid Sturgeon Assessment (Steinhart A/B Room)
- 3:00pm – 6:00pm - Tern & Plover coordinators Meeting (Marcotte Room)
- 4:30pm - 5:30pm - MRNRC Delegates Meeting (Boardroom)
- 7:00pm – 9:00pm – USFWS (Marcotte Room)

## **Thursday 2/28**

- 7:00am – 9:00am - Registration (Lower Lobby Lied Lodge)
- 7:00am – 8:00am - Breakfast Buffet (West Assembly)
- 8:00am – 12:00pm – Concurrent Sessions (Steinhart A/B & C)

### **Special Meetings**

- 1:00pm – 5:00pm – HERP monitoring meeting (Steinhart A/B)

## **Abstracts available on the web**

**<http://www.mrnrc2008.com/>**

**Presentation and Poster abstracts which received author's approval for posting are available on the website.**

**Abstracts are organized alphabetically by the presenter's last name (presentations) or first author's last name (posters)**

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“In the 19th century, we devoted our best minds to exploring nature.

In the 20th century, we devoted ourselves to controlling and harnessing it.

In the 21st century, we must devote ourselves to restoring it.” — Stephen Ambrose

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## Plenary Speakers



### **Edwin A. Theriot, Director of Environmental Programs, US Army Corps of Engineers**

A member of the federal government's Senior Executive Service, Dr. Theriot serves as the Chief of the Environmental Community of Practice. This community includes the breadth and depth of environmental talent, tools and techniques in the U.S. Army Corps of Engineers

(USACE) to support the Army and

the Nation. Dr. Theriot is the Senior Executive lead for the Ecosystem Restoration Mission area for the USACE. He provides technical oversight of the large watershed level studies, e.g. Everglades, Coastal Louisiana, etc., and provides policy guidance to the Director of Civil Works and the Assistant Secretary of Army for the mission area. Dr. Theriot also leads the Department of Defense Support Team, which is focused on Army, DoD, and other agency customers in the Washington, D.C., area; and serves as the advocate for the USACE Southwestern Division.

Prior to assuming his current position, he served as Director of Interagency and International Services, where he was responsible for establishing, executing and coordinating National and International agreements with other Federal agencies, National Organizations and Foreign Governments. As director, he also supported the North Atlantic Division, Gulf Region Division, and Afghanistan District in managing their programs as the Headquarters/ Washington, D.C., representative with the Administration, DoD and Congress.

Dr. Theriot served as Senior Advisor to Ambassador Paul Bremer, Head of the Iraq Coalition Provisional Authority, as part of a six-month White House appointment. He advised the Iraqi Minister for Water Resources on the management of the Tigris and Euphrates River basin and directed the reorganization and management of

a workforce of 20,000 employees. Dr. Theriot coordinated and negotiated with donor nations and organizations to assist in acquiring funds for the reconstruction of the Iraqi water resources infrastructure. He led the effort to develop a plan to restore the Iraqi marshes and served as the Chair of an International Technical Panel, which provided advice to the Iraqi government on the restoration of the marshes.

From February 2003 to February 2004, he served as Director of Programs for the USACE Mississippi Valley Division/Mississippi River Commission (MVD/MRC). He was responsible for developing and managing a \$1.2-billion Civil Works program for the Mississippi Valley. He also served as the principal adviser to the President of the Mississippi River Commission. While serving in MVD, Dr. Theriot lead the Louisiana Coastal Area Study for the restoration of the Louisiana coastline.

Dr. Theriot served as Director of the Environmental Laboratory (EL) at the U.S. Army Engineer Research and Development Center (ERDC) in Vicksburg, Miss., from September 2000 to August 2005. During his 27 years in R&D, he served as Research Program Manager and directed research for more than 13 years in the areas of aquatic ecology, risk assessment, and river restoration; and held temporary positions as Division Chief, Natural Resources Division; Assistant Director, Environmental Laboratory; and Associate Director, ERDC.

Dr. Theriot received his B.S. and M.S. degrees in microbiology from the University of Southwestern Louisiana. He holds a Doctorate in molecular biology from the University of Massachusetts. He has received numerous awards, including the Secretary of Defense Exceptional Civilian Service Award, the Director's Research and Development Award twice, the Army Research and Development Award, and the Superior Civilian Service Award twice. He is a Vietnam era veteran, serving in the U.S. Navy four years. He has served as adjunct professor at Purdue University and the University of Louisiana at Lafayette, and has authored more than 50 technical papers and reports.

## **Plenary Speakers (cont.)**

### **Bruce Aylward, Director, Ecosystem Economics LLC**

Bruce is a Director at Ecosystem Economics LLC, a firm specializing in the application of economics to ecosystem management and restoration. Bruce has sixteen years of U.S. and overseas experience in research, policy analysis and project implementation across a range of ecosystems, topical area and socio-economic conditions. Bruce is currently providing strategic advice and capacity-building on water rights acquisition for ecosystem purposes to a number of initiatives in the Pacific Northwest. He is also collaborating with various partners in the U.S. and abroad on the development and design of payment and market systems for ecosystem services.

### **Dr. Steven Stewart, Research Scientist, Department of Hydrology/SAHRA, University of Arizona**

Steven Stewart is a Research Scientist in the Department of Hydrology and Water Resources at the University of Arizona. His main work at the University of Arizona is with SAHRA (Sustainability of semi-Arid Hydrology and Riparian Areas) where he does research on the value of riparian preservation and restoration in the Middle Rio Grande and San Pedro non-market valuation, experimental economics (tradable permits for water quality and elasticity of water demand), scenario development and the economic impact of recreation on local economies.

### **Tony Willardson, Deputy Director, Western States Water Council**

Tony graduated from Brigham Young University with a bachelor of arts degree in political science with minors in economics and business management. He received a Master of Public Administration degree from the University of Utah, with emphasis in policy analysis and natural resources. He is a member of the National Honor Society for Public Affairs and Administration -- Phi Alpha Alpha.



Tony joined the staff of the Western States Water Council in 1979, and was named as the Associate Director in 1983 and Deputy Director in 2005. The Council was created in 1965 to advise and represent western governors on a broad range of water policy issues. One of its most visible and well regarded products is a weekly newsletter, *Western States Water*, which he has edited for over 25 years.

He coauthored the June 2006 Western Governors' Association report: "Water Needs and Strategies for a Sustainable Future," and has helped with many of the steps taken to implement the report. He has also authored and coauthored many reports, papers and articles on instream flows and the public trust, water conservation and water use efficiency, state water project financing, state water planning, ground water management and protection, implementation of the Endangered Species Act, drought management, ground water recharge, interregional water transfers, and water use fees

### **Robert K. Davis, Ph. D. Independent Consultant, Natural Resource Economics and Policy**

Dr. Davis was most recently associated with the Institute for Behavioral Science at the University of Colorado. He has served on the recent National Research Council Committees on the Missouri River Ecosystem and on Water Resources Planning for the Upper Mississippi River and Illinois Waterway, respectively. He was head of the Economic Staff in the Office of the Secretary of the Interior for nine years. Prior to that he taught at Johns Hopkins in Geography and Environmental Engineering and served on consultancies on water resources and wildlife in eastern and southern Africa and in the U.S. He has done research on the Kangaroo in Australia and on opportunities for wildlife ranching in western U.S.

Dr. Davis's Ph.D. thesis is generally considered the first publication on contingent valuation, a method in use today to quantify environmental benefits and damages. He has developed a system for quantifying benefits and costs of wildlife habitat improvement projects in the Bureau of Land Management and has evaluated riparian restoration activities of the Bureau.

Dr. Davis received his B.S. degree and his M.S. degree from the Ohio State University and his MPA and Ph.D. degrees from Harvard University.

## **Tuesday, February 26**

**Location - Steinhart Room**

8:00 a.m. – Welcome, Chris Larson, MRNRC Chair and  
Conference Chair

### **Plenary**

***“From a Healthy Ecosystem to a Healthy Economy:  
Challenges, Opportunities and Tools  
to Make the Transition”***

**Moderators - Jane Ledwin, USFWS/Wayne Nelson-Stastny, USFWS**

8:10 a.m. – *“The US Army Corps’ Ecosystem Restoration Mission”*  
**Edwin A. Theriot**, Director of Environmental Programs,  
US Army Corps of Engineers.

8:40 a.m. – *“Ecosystem Service Values and Economic Incentives:  
Tools for Ecosystem Restoration”*  
**Bruce Aylward**, Director, Ecosystem Economics LLC

9:20 a.m. – *“Using the tools of environmental economics to under-  
stand the economic benefits of rivers: three case studies”*  
**Dr. Steven Stewart**, Research Scientist, Department of  
Hydrology/SAHRA, University of Arizona

10:00 a.m. – Break

10:20 a.m. – *“Water Needs and Strategies for a Sustainable Future:  
The Challenges are Increasing”*  
**Tony Willardson**, Deputy Director, Western States  
Water Council

11:00 a.m. – *“A Brief Review of Myths and Realities Across the  
Wide Missouri”*  
**Robert K. Davis**, Ph. D. Independent Consultant,  
Natural Resource Economics and Policy

11:40 a.m. – Panel Discussion/Q&A

12:10 p.m. – Lunch – West Assembly area  
MRNRC Missouri River Champion Award

## **“Missouri River Recovery and WRDA”**

**Moderator – Paul Lepisto, Izaak Walton League**

- 1:30 p.m. – *“Missouri River Recovery 2007 and Beyond”*  
**Mike Olson**, USFWS & **Mike George**, USACE
- 1:50 p.m. – *“Missouri River and WRDA”*  
**David Cookson**, Nebraska Attorney Generals Office
- 2:10 p.m. – *“Establishment of the Missouri River Recovery Implementation Committee”*  
**Rosemary Hargrave**, USACE; **Jason Skold**, TNC & **Cheryl Chapman**, Matrix Consulting
- 2:30 p.m. – *“Missouri River Ecosystem Restoration Plan”*  
**Jennifer Switzer**, USACE; **Kayla Eckert-Uptmor**, USACE & **Heather McSharry**, USFWS
- 2:50 p.m. – Panel Discussion/Q&A
- 3:10 p.m. – Break

## **“The ‘Wider’ River View”**

**Moderator – Casey Kruse, USACE**

- 3:30 p.m. – *“Missouri River Public Use Assessment: From Lewis and Clark to Public Access”*  
**Steven Sheriff**, Missouri Department of Conservation
- 3:50 p.m. – *“Challenges and Opportunities for Restoring Functional and Historically Accurate Communities in an Altered Flood Plain”*  
**Tyler Janke**, The Nature Conservancy
- 4:10 p.m. – *“Trends in Streamflow in the Missouri River Basin from 1957 to 2006”*  
**Mark Anderson**, USGS
- 4:30 p.m. – *“What Makes Independent Science Review Useful in River Management and Restoration?”*  
**Mary McEathron**, University of Minnesota

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The nation behaves well if it treats the natural resources as assets which it must turn over to the next generation increased and not impaired in value.

Inscribed on the wall of the entrance hall of the American Museum of Natural History, Washington, D.C.

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## **Wednesday, Feb. 27 - Morning, Concurrent Session A**

**Location – Steinhart A/B**

### **Session 1A: Forest to Piping Plovers**

**Moderator – Mark Sherfy, USGS**

- 8:00 a.m. – *“Assessment of Historic Land Cover Change (1892-2006), Current Forest Area and Cottonwood Age Structure along the Recreational River”* - **Mark Dixon**, University of South Dakota
- 8:20 a.m. – *“Landscape and Vegetative Forecasting for the Missouri River”* - **Lisa Rabbe**, USACE
- 8:40 a.m. – *“Habitat Evaluation of Emergent Sandbar Creation and Modification Projects”* - **Coral Huber**, USACE
- 9:00 a.m. – *“Least Terns, Piping Plovers and Water Management on the Missouri River”* - **Greg Pavelka**, USACE
- 9:20 a.m. – *“Insect Abundance and Foraging Habitat for Piping Plovers on Engineered and Natural Sandbars”* – **Dan Catlin**, Virginia Polytechnic Institute
- 9:40 a.m. – Break/**Poster Session**

### **Session 2A – Piping Plovers and Least Terns**

**Moderator – Carol Aron, USFWS**

- 10:20 a.m. – *“Growth and Survival of Piping Plover Chicks on Engineered and Natural Sandbars: Can We Effectively Create Habitat?”* – **Dan Catlin**, Virginia Polytechnic Institute
- 10:40 a.m. – *“Nesting Success of Piping Plovers on Engineered and Natural Sandbars in the Gavins Point Reach”* – **Joy Felio**, Virginia Polytechnic Institute
- 11:00 a.m. – *“Evaluating Movements and Behavior of Least Terns on the Gavins Point Reach”*– **Jennifer Stucker**, USGS
- 11:20 a.m. – *“Assessment of Least Tern and Piping Plover Habitats on the Missouri River Using Remote Sensing”* – **Laurence Strong**, USGS
- 11:40 a.m. – *“Nest-Site Habitat Selection by Piping Plovers on Lake Sakakawea”* – **Michael Anteau**, USGS
- 12:00 p.m. – Lunch – West Assembly area

## **Wednesday, Feb. 27 - Morning, Concurrent Session B**

**Location – Steinhart C/Corridor**

### **Session 1B – Managing the Floodplain**

**Moderator – Angi Bruce, SW Regional Wildlife Supervisor, DNR**

- 8:00 a.m. – *“Survivorship Patterns of USACE Planted Trees on the Benedictine Bottoms Fish and Wildlife Mitigation Site”* – **Trevor Wild**, Benedictine College
- 8:20 a.m. *Cancelled*
- 8:40 a.m. – *“Missouri River Mitigation, Management Challenges”* – **Carl Priebe**, IDNR  
– *“Mitigating Iowa’s Upper Missouri River, Trials, Lessons and Ideas”* – **Ed Weiner**, IDNR
- 9:00 a.m. – *“Flood Plain Wetlands, Managing for Ecological & Biological Integrity”* – **Eric Hopps**, NGPC
- 9:20 a.m. – *“Big Muddy National Wildlife Refuge: A Work in Progress”* – **Tom Bell**, USFWS
- 9:40 a.m. Panel Discussion
- 10:00 a.m. – Break/**Poster Session**

### **Session 2B – Sturgeon Spawning and Larval Drift**

**Moderator – Mark Drobish, USACE**

- 10:40 a.m. – *“Drift Dynamics of Larval Pallid Sturgeon in the Mainstem Missouri River, MT”* – **Pat Braaten**, USGS
- 11:00 a.m. – *“Spawning and Associated Movement Patterns of Pallid Sturgeon in the Lower Yellowstone River”* – **David Fuller**, Montana Fish, Wildlife and Parks
- 11:20 a.m. – *“Spawning of Pallid Sturgeon in the Middle Missouri River”* – **Justin Haas**, NE Game and Parks Commission
- 11:40 a.m. – *“Comparative Examination of Patterns of Movement and Spawning by Pallid Sturgeon and Shovelnose Sturgeon in the Lower Missouri River”* – **Aaron DeLonay**, USGS
- 12:00 p.m. – Lunch – West Assembly area

## **Wednesday, Feb. 27 - Morning, Concurrent Session C**

**Location – Marcotte**

### **Session 1C – Assessing Technology and the MNRR**

**Moderator – Tyler Cole, National Park Service**

- 8:00 a.m. – *“Nutrient Criteria for the Missouri River – An Exploration of the Data”* –  
**Debra Baker**, Kansas Biological Survey
- 8:20 a.m. – *“Technological Advancement in Hydrographic Surveying: Use of a Multibeam Echosounder on the Missouri River”* – **Rick Wilson**, USGS
- 8:40 a.m. – *“Using Ground-based LiDAR for Surveys of Geomorphic Change Resulting from Missouri River Flow Modifications and Studies of Irrigation Canals in Nebraska”* – **Brenda Woodward**, USGS
- 9:00 a.m. – *“Species Composition, Age Structure, Sex Ratios and Abundance of Turtle within the 59-Mile District of the Missouri National Recreational River”* –  
**Aaron Gregor**, University of South Dakota
- 9:20 a.m. – *“Missouri National Recreational River (MNRR)”* –  
TBD, National Park Service
- 9:40 a.m. – *“Innovative Bank Stabilization on the Missouri River”*  
**Dave Derrick**, USACE
- 10:00 a.m. – Break/**Poster Session**
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“The beginning of wisdom is found in doubting;  
by doubting we come to the question,  
and by seeking we may come upon the truth.”  
– Pierre Abelard (1079-1142)

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**Notes:**



## **Wednesday, Feb. 27 - Afternoon, Concurrent Session A**

### **Session 3A – Least Tern & Piping Plover Use, Disturbance, Predation and Take**

**Moderator – Dan Catlin, VA Tech**

**Location – Steinhart A/B**

- 1:20 p.m. – *“Least Tern and Piping Plover Use of the Garrison Reach of the Missouri River”* – **Terry Shaffer**, USGS
- 1:40 p.m. – *“A Muddy Question: Assessing Human Recreation and Research Disturbance on Missouri River Sandbars Managed for Piping Plovers and Least Terns”* – **Jennifer Stucker**, USGS
- 2:00 p.m. – *“Aspects of Great Horned Owl Ecology with Possible Implications for Owl Management”* – **James Fraser**, Virginia Tech
- 2:20 p.m. – *“The Effect of Incidental Take in the Missouri River on Piping Plovers in the Great Plains: Does Flooding Eggs and Chicks Increase Jeopardy?”* – **Conor McGowan**, University of Missouri
- 2:40 p.m. – *“The Process for Constructing Emergent Sandbar Habitat in the MNRR”* – **Luke Wallace**, USACE
- 3:00 - 5:00 p.m. – **Poster Session**



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“Policies work best when the best information flows unimpeded into the decision-making process, which makes scientific thinking, in its broadest sense, a formula for success.” — Chris Mooney

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## **Wednesday, Feb. 27 - Afternoon, Concurrent Session B**

### **Session 3B – To a Greater Understanding of Sturgeon**

**Moderator – Gerald Mestl, NE Game & Parks Commission**

**Location – Steinhart C/Corridor**

- 1:20 p.m. – *“Dispersal of Hatchery Reared Pallid Sturgeon in the Lower Missouri River”* – **Nick Utrup**, USFWS
- 1:40 p.m. – *“A Basin-wide Assessment of Condition, Growth, and Stock Structure of Pallid Sturgeon in the Missouri River”* – **Dane Shuman**, USFWS
- 2:00 p.m. – *“Assessment of Shovelnose Sturgeon Mark/Recapture Efforts on the Missouri River”* –  
**Darby Niswonger**, Missouri Dept. of Conservation
- 2:20 p.m. – *“The Use of Occupancy Modeling to Aid the Missouri River Pallid Sturgeon Monitoring Program”* –  
**Joshua Schloesser**, Kansas State University
- 2:40 p.m. – *“Interpretation of the Stress Response as Measured by Cortisol in Shovelnose Sturgeon in the Missouri River”*  
– **Diana Papoulias**, USGS
- 3:00 - 5:00 p.m. – **Poster Session**



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“Any river is the summation of the whole valley.  
To think of it as nothing but water  
is to ignore the greater part.”

– Hal Borland

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## **Thursday, Feb. 27, Concurrent Session D (early a.m.)**

### **Session 1D – Sturgeon and Habitat**

**Moderator – Don Skaar, MT Dept. of Fish Wildlife & Parks**

**Location - Steinhart A/B**

- 8:00 a.m. – *“Pallid Sturgeon Habitat Assessment and Monitoring Program: A Preliminary Analysis, from Ponca, NE to Rulo, NE”* - **Schuyler Sampson**, NE Game and Parks
- 8:20 a.m. – *“Habitat Used by Macrhybopsis Chubs Associated with Channel Modifying Structures in a Large Regulated River: Implications for River Modification”* – **Clayton J. Ridenour**, USFWS
- 8:40 a.m. – *“Benthic Macroinvertebrate Communities Associated with Unmodified and Modified Dike Structures of the Missouri River”* – **Cynthia Upah**, University of Nebraska at Omaha
- 9:00 a.m. – *“Monitoring and Evaluation at Missouri River Fish and Wildlife Mitigation Sites”* – **Wm., Glen Covington**, USACE
- 9:20 a.m. – *“Fish Species Richness in Constructed Backwaters of the Upper Channelized Missouri River”* – **Royce Bowman**, Iowa DNR
- 9:40 a.m. – *“Use of Physical Characteristics to Describe and Rank Constructed Secondary Channels on the Middle Missouri River”* – **Brandon Eder**, NE Game and Parks
- 10:00 a.m. – Break

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“One should pay attention to even the  
smallest crawling creature for these too  
may have a valuable lesson to teach us.”

– Black Elk

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## **Thursday, Feb. 27, Concurrent Session E (early a.m.)**

### **Session 1E – The “Big Muddy” Needs Mud**

**Moderator – Gene Zuelein, NE Game & Parks Commission**

**Location – Steinhart C/Corridor**

8:00 a.m. – *“Water Quality Responses to Flow and Alteration of the Lower Missouri River and Some Potential Ecological Effects”* – **Dale Blevins, USGS**

8:20 a.m. – *“Progress Report on the Lewis and Clark Lake Sediment Management Study”* – **Paul Boyd, USACE**

8:40 a.m. – *“Public Perceptions and Sediment Management on the Missouri River”* – **Michael Chapman, USACE**

9:00 a.m. – *“Soil and Water Quality Sampling Results for Shallow Water Habitat Chute Construction”*  
**Michael Gossenauer, USACE**

9:20 a.m. – *“Regional Sediment Management”* –  
**Kenneth Stark, USACE**

9:40 a.m. – *“Sediment Regime Constraints on Restoration of the Lower Missouri River”* – **Robert Jacobson, USGS**

10:00 a.m. – Break

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**"Fiction is obliged to stick to possibilities.  
Truth isn't."**

**— Mark Twain**

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**Thursday, Feb. 27, Concurrent Session D (late a.m.)**

**Session 2D – Fisheries and Habitat**

**Moderator – Paul Boyd, USACE**

**Location – Steinhart A/B**

- 10:20 a.m. – *“Continuation of Fish Community Monitoring in Reconstructed Chutes Along the Missouri River”* – **Kasey Whiteman**, Missouri Dept. of Conservation
- 10:40 a.m. – *“Relative Abundance of Shallow Water Fishes in the Missouri River Downstream of Fort Randall and Gavins Point Dams, South Dakota and Nebraska”* – **Robert Klumb**, USFWS
- 11:00 a.m. – *“Expanding the Current Use of Hydraulic Models for Addressing Missouri River Ecological Studies”* – **Wayne Stancill**, USFWS
- 11:20 a.m. – *“Geomorphic Dynamics in the Lower Missouri River: Implications for Pallid Sturgeon Habitat”* – **Caroline Elliott**, USGS
- 11:40 a.m. – *“Response of Constructed Shallow Water Habitat to the 2007 Flood Event”* – **Chance Bitner**, USACE
- 12:00 p.m. – *“2007 Shallow Water Habitat (SWH) Activities”*  
*“Kansas City District Update”* – **Michael Chapman**  
*“Omaha District Update”* – **Dan Pridal**, USACE



**Thursday, Feb. 27, Concurrent Session E (late a.m.)**

**Session 2E – Missouri River Biota**

**Moderator – Vicki Richmond, Missouri River Relief**

**Location – Steinhart C/Corridor**

- 10:20 a.m. – *“Abundance and Biodiversity of Mosquitoes on the Benedictine Bottoms from 2006-07”* –  
**Erin Fisher**, Benedictine College
- 10:40 a.m. – *“Comparison Study of Birds on the Benedictine Bottoms and Querciola di Quarrata, Italy”* –  
**Carla Dolezal**, Benedictine College
- 11:00 a.m. – *“Small Mammal Diversity and Population Dynamics on the Benedictine Bottoms Fish and Wildlife Mitigation Site, in Northeastern Kansas”* –  
**Allison Varilek**, Benedictine College
- 11:20 a.m. – *“Fluctuating Missouri River Water Levels: Potential Linkages between Habitat Quality, Nest Survival and Adult Distribution of Piping Plovers ”* –  
**Mark Sherfy**, USGS
- 11:40 a.m. – *“Impacts of Missouri River and Niobrara River Flows on Young-of-the-Year Paddlefish Recruitment”*  
**Brenda Pracheil**, University of Nebraska, Lincoln
- 12:00 p.m. – *“Feeding Trials of Larval Pallid Sturgeon Using Three Commercial Starter Diets and Artemia as a Supplement”* **Kappenman-(Bill Krise-presenter)**,USFWS

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“The goal of science is to find those ideas that can withstand the long and hard barrage of evidence-based argument.”

– Thomas W. Martín

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## **Poster Session West Assembly**

**Posters can be set-up starting  
Monday afternoon, 5:00 p.m.**

*[Authors present during afternoon break on Tuesday,  
Wednesday morning break & Wednesday from 3:00 - 5:00 p.m. ]*

**Acoustic Doppler Velocity Meters: Advantages and Applications.** *Michael J. Andersen, Richard C. Wilson, and Brenda K. Woodward, USGS, Nebraska Water Science Center*

**Biotic Response to Large Woody Debris in a Large Channelized River.** *Mike Archer, University of Nebraska (Lincoln)*

**Snowy Plovers in the Missouri River Basin.**  
*Carol Aron, U.S. Fish and Wildlife Service*

**Reclamation's Upper Missouri River Study Update.**  
*Sue Camp, U.S. Bureau of Reclamation*

**Forest Structure and Successional Patterns of Cottonwood Dominated Riparian Forests on the Missouri National Recreation River in South Dakota and Nebraska.** *Caleb R. Caton, Rebekah M. Jessen, W. Carter Johnson, Mark D. Dixon*

**A comparison between field assessed and photo-interpreted macro habitat values of pallid sturgeon capture sites in the Lower Missouri River.** *Kimberly A. Chojnacki, Sandra J. Clark-Kolaks, Emily K. Tracy-Smith, Aaron J. DeLonay, USGS*

**Assessing the spatial distribution of pallid and shovelnose sturgeon capture sites in the Lower Missouri River using geospatially enabled relational data.** *Kimberly A. Chojnacki, Sandra J. Clark-Kolaks, Emily K. Tracy-Smith, Aaron J. DeLonay*

**Use of telemetry data to evaluate sampling protocols for the Pallid Sturgeon Assessment Program on the Lower Missouri River.** *Sandra J. Clark-Kolaks, Dustin W. Everitt, Paul Horner, Kirk Steffensen, Nicholas J. Utrup, Aaron J. DeLonay*

**Evaluation of trotline use in sampling for pallid sturgeon and shovelnose sturgeon in the Lower Missouri River.** *Sandra J. Clark-Kolaks, Kimberly A. Chojnacki, Jermyn N. Porter, Brian W. Carollo, Emily K. Tracy-Smith, Aaron J. DeLonay*

**Simulations of flow using multidimensional hydraulic and sediment transport models, Missouri River near Yankton, South Dakota, and Ponca, Nebraska.** *Benjamin J Dietsch, Nebraska Water Science Center*

**DeSoto Lake Creel Survey 2006.** *Brian S. Elkington, Joanne M. Grady and Tracy D. Hill*

**Water Quality Data Needs for the Missouri River** *Steve Fischer (USACE), Dale Blevins (USGS - EPA) & Rick Wilson (USGS - NE)*

**Birds on the Benedictine Bottoms Compared to Squaw Creek National Wildlife Refuge.** *Callen D. Giesen, Carla Dolezal, Trevor T. Wild, Daniel E. Bowen, Terrence P. Malloy, Martin P. Simon*

**Habitat Utilization by 'Target' Cyprinid Species in the Missouri River.** *Cameron, W. Goble, Schuyler, J. Sampson, Oliver, N. Cox, Gerald, E. Mestl*

**Vegetation Communities of the Big Muddy National Fish and Wildlife Refuge.** *Keith W. Grabner, Matthew A. Struckhoff*

**Hydrological Effect on Off-Channel Fish Communities.** *Jerrold Hall and Sabrina Rust, NE Game and Parks Commission*

**Influence of mesh size and trawling techniques on catch of benthic fish species of the Missouri River.** *Martin J. Hamel, Kirk D. Steffensen, Sam Stukel, Wyatt J. Doyle, Paul Horner, and Dane Shuman*

## Posters Continued

**Comparing spatial distribution and relative abundance of Native Cyprinid species and *Scaphirhynchus albus* in the Middle Missouri River: An Arc GIS approach.**

*Ken Hatten, Oliver Cox, Schuyler Sampson, Brandon Eder*

**Evaluating wound treatments of shovelnose sturgeon egg checks.** *Patricia A. Herman, Wyatt J. Doyle, Emily K. Kunz*

**Comparison of young-of-the-year fish catch between flood year and non-flood years on the Missouri River.**

*Paul T. Horner, Darby J. Niswonger, Erin M. Gilmore, Michael J. Allen, Kirk Steffensen, Wyatt J. Doyle*

**Patterns of Floristic Quality, Wetland Affinity, and Plant Species Richness within Remnant Cottonwood Stands along the Missouri National Recreational River.** *Rebekah M. Jessen, Caleb R. Caton, Gary E. Larson, W. Carter Johnson, Mark D. Dixon*

**New geologic mapping and geochronology of the corridor area of the Missouri National Recreational River, Nebraska and South Dakota.** *Scott Lundstrom, USGS*

**Fish Communities and Habitat Use in Constructed and Natural Side Channels on the Lower Missouri River.**

*Joseph A. McMullen, USFWS*

**Structure Preparation Methods for Determining Age of Selected Missouri River Fishes.**

*M.L. Miller, J. E. Dattilo and P.A. Herman*

**Composition of Missouri River fishes accessing Eagle Bluffs Conservation Area through a 'fish friendly' passage structure.**

*Meagan D. Montgomery and David L. Galat*

**Blue sucker movements and use distributions in the Middle Missouri River.** *Ben C. Neely, Mark A. Pegg, Gerald E. Mestl*



**Water Quality Analysis on the Benedictine Bottoms Fish and Wildlife Mitigation Site in Northeastern Kansas.**

*Michelle Parks, Nicole Werbin, Benjamin Sampedro, Daniel Bowen, Lawrence Bradford, Martin Simon, Terence Malloy*

**Evaluation of a Basin-Wide Monitoring Program and Recapture Success of Hatchery Reared Pallid Sturgeon in the Lower Missouri River.**

*Andrew T. Plauck, Sam Stukel, Kirk Steffensen, Paul Horner*

**Age and Growth of *Macrhybopsis* Chubs in Missouri River.**

*Clayton J. Ridenour, Jennifer L. Johnson, Lee M. Erickson, Tracy D. Hill*

**Preliminary investigation of turtle biodiversity on the Benedictine Bottoms Fish and Wildlife Mitigation Site, in northeastern Kansas.**

*Sarah L. Rieker, Lauren Berardino, Dr. Terry Malloy, Dr. Martin Simon, Dr. Daniel Bowen*

**Vegetational analysis of cottonwood stands on the lower Missouri River floodplain.**

*David C. Seefeldt, Jessica A. Cozart, Paul Clark, Flaminia Cornaggia, Michelle E. Parks, Daniel E. Bowen, Jack Davis, Terrence P. Malloy, Roxana Tosterud, Martin P. Simon*

**Biodiversity Patterns of Invertebrates on the Benedictine Bottoms Fish and Wildlife Mitigation Site.**

*Kathryn Settle, Joe Hahn, Chelsea LaJoie, Erin Fisher, Adam Stuppy, Allison Varileck, Trevor Wild, Zachary Watt, Nichole Werbin, Suzanna Kindole, Martin Simon, Daniel Bowen, Terry Malloy*

**Fluctuating Missouri River Water Levels: Potential Linkages between Habitat Quality, Nest Survival and Adult Distribution of Piping Plovers**

*Sherfy, M. H., M. J. Anteau, M. T. Wiltermuth, and T. L. Shaffer*

**Regional Sediment Management.**

*Kenneth A. Stark and Paul M Boyd*

**Jameson Chute Micromodel.**

*Stephen J. Spaulding and Michael T. Rodgers*

## Posters Continued

**Distribution and habitat use for juvenile pallid sturgeon in the Fort Randall Reach of the Missouri River.**

*Bryan D. Spindler, Steven R. Chipps, and Robert A. Klumb*

**Comparing Native Young-of-Year Fish Abundance to Different Annual Hydrologic Regimes on the Lower Missouri River.** *Andy Starostka, Clayton Ridenour, Colby Wrasse*

**Nebraska Natural Legacy Project, Conserving Wildlife and their Habitats in Missouri River Bluffs.**

*Cynthia Taylor, Nebraska Game and Parks Commission*

**Comparisons of white and green mesh trammel and gill nets to assess the fish community in the Missouri River.**

*Greg A. Wanner, U.S. Fish and Wildlife Service*

**Bayesian Hierarchical and Information Theoretic Approaches in Model-Facilitated Recovery of Pallid Sturgeon.** *Mark L. Wildhaber, Thomas W. Bonnot, Ali Arab, Scott H. Holan, Joshua J. Millspaugh, Christopher K. Wikle, Ginger M. Davis, Aaron J. DeLonay, Robert B. Jacobson, and Diana M. Papoulias*

**Survivorship patterns of United States Army Corps of Engineer planted trees on the Benedictine Bottoms Fish and Wildlife Mitigation Site, in northeastern Kansas.** *Trevor T. Wild, Nicole Werbin, Kevin M. Stokes, Virginia L. Winder, Larissa Hilger, Joseph Curry, John W. Davis, Terrance P. Malloy, Daniel E. Bowen, Martin P. Simon*

**The Missouri River (aka Lewis and Clark National Historic Trail, in part),** *Dan M. Wiley, National Park Service*

**Movement of Nests by Piping Plovers on the Upper Missouri River.** *Mark T. Wiltermuth, Michael J. Anteau, Mark H. Sherfy, and Terry L. Shaffer*

**Role of Environmental Variables in Shovelnose Sturgeon Reproduction.** *Colby J Wrasse; Andy B Starostka; Tracy D Hill*

## Planning Committee

**Chris Larson**, Chair, IA Dept. of Natural Resources

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Angi Bruce, IA Dept of Natural Resources

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